

Flights of the Wright Brothers

Grade Level: 6,7,8

Subject Area: Social Studies, Language Arts

General Overview

On December 17, 1903, Orville and Wilbur Wright made the first machine-powered flight at Kitty Hawk, North Carolina. With Orville aboard, the flight lasted about 12 seconds. The first flight covered 100 feet. The brothers made 3 other flights that day with the final one lasting 59 seconds and covering 852 feet. The machine the Wright brothers used was powered by a 12-horse power motor and 2 propellers that they designed.

Over the next few years the Wrights built stronger machines that flew farther and were more reliable.

Activity 1 : Mini Webquest

Time Required: 1 class period (*teacher's discretion*)

Materials: Internet Access
Wright Brothers Webquest worksheet (pdf)

State Standards:	Grade 6	Language Arts	Goals 1, 2.01, 4
	Grade 7	Language Arts	Goals 1, 2.01, 4
	Grade 8	Language Arts	Goals 1, 2.01, 4
		Social Studies	Goals 5.04

Preparation

Students should study the materials provided, including the Wright Brothers' short bio and photograph of their glider in Kitty Hawk. Students should read the original newspaper article from the Wilmington newspaper provided. Encourage students to search through other documents on the Wright Brothers with in the website. Also read the letter from Orville Wright to Reginald Fessenden, who was another important inventor of the period.

Orville

DOB: August 19, 1871 DOD: January 30, 1948

Wilbur

DOB: April 16, 1867 DOD: May 30, 1912

Wilbur and Orville Wright were both born in Indiana, Wilbur near Millville, and Orville at the family home in Dayton four years later. As young boys, the brothers were close, sharing both toys and ideas. The sharing didn't stop at the end of their childhood. As they grew older they continued to share ideas, have discussions, and make many decisions together, even signing their checks "The Wright Brothers" with only their initials to distinguish who the signer actually was.

Their interest in flight developed over a period of twenty years, beginning with a rubber-band-powered toy helicopter their dad gave them when Wilbur was 11 and Orville was 7. This toy fascinated the boys, and they began building toy flying contraptions of their own. Orville even built kites and sold them to friends. As they grew older, their interest in flight grew stronger, and by the fall of 1900, the two brothers were on their way to Kitty Hawk, North Carolina to make their first attempts at flight.

While making camp on the beaches at Kitty Hawk, the brothers made close friends with locals who became apart of the Wrights' first "flight crew". The brothers even lived with a local family for several weeks until they could fully prepare their camp.

One of the people the Wrights became close with at Kitty Hawk was an inventor named Reginald Fessenden, who wasn't really a local at all. Mr. Fessenden came to Roanoke Island, North Carolina from Ontario, Canada in January of 1901, working to create the first wireless radio transmissions. Living such a short distance from Kitty Hawk, Fessenden became aware of the Wright Brothers experiments; and the Wrights became aware of Fessenden's. With three like-minded inventors in the same area, the Outer Banks became a hot-bed of experimentation in the early 1900s.

While Reginald Fessenden was only one of many people corresponding with the Wright's during these years, he continued to support their work years after 1902. Letters between him and the Wrights in 1911 tell us that he shared information with them about an engine he'd been working on that was light and powerful; just what the brothers needed to power their planes.

While Fessenden left the Outer Banks in 1902, the Wright Brothers continued to experiment at Kitty Hawk. On December 17, 1903, their efforts finally paid off. Their 675 pound, engine-powered plane was ready to fly, though not very far. The plane flew barely a quarter mile in all the brothers' attempts combined, but this was enough to put them in the record books. Their famous plane is now hanging in The National Air and Space Museum in Washington D.C.

The Wright Brothers continued experimenting together until Wilbur's death in 1912. Orville went on working for 36 years after Wilbur, until he passed away in 1948. Though the Wright Brothers were not North Carolina natives, their experiments done and friends made in the Outer Banks will remain an intriguing part of our state's history.

Instructions

Students should read the questions pertaining to Wrights' and follow the links within the website to find the answers to these questions. They should then record the answers to the questions on the worksheet provided.

Read the Wright Brothers' short biography and study the photograph of the Wrights' first flight at Kitty Hawk.

1. What dangers did they face?
2. What things did they have to consider when they built the airplane?
3. Why was the terrain at Kitty Hawk good for their experiment?
4. If an experiment such as that depicted in the photograph were conducted today, how do you think the photograph might differ?

Read the original newspaper article about the first flight.

1. For an event that we think of as so important, the newspaper article is not a large one. Why do you think that is?
2. Why do you think the Wrights chose Kitty Hawk as a place to experiment with manned flight?
3. If such an experiment were to take place today, how do you think it might be treated differently in the newspaper?

Read the letter from Orville Wright to Reginald Fessenden, who was another important inventor of the period. It is obvious from the letter that both Fessenden and the Wrights were working on similar or complementary projects.

1. In the letter Wright expresses concern about the weight of the motor. Why would weight be an important issue to him?
2. Do you think inventors frequently write to each other? Why or why not?
3. Why is it important that such a letter be saved and preserved?

Activity 2

Time Required:	1 week outside class time (<i>teacher's discretion</i>)
Materials:	Internet Access Supplementary Images and Texts (online) Additional research Students materials of choice (for constructing the model)

State Standards:	Grade 6	Language Arts	Goals 2.01
	Grade 7	Language Arts	Goals 1.02, 2.01, 4.01, 5
	Grade 8	Language Arts	Goals 1.02, 2.01, 4.01, 5
		Social Studies	Goals 3.04, 4.04, 5.02, 5.05

Preparation

Do some additional research on the Wrights' plane.

Vist NASA's site that pertains to the Wright Brothers at

<http://permanent.access.gpo.gov/websites/spacelink.nasa.gov/archive/The.Wright.Brothers.Adventure.pdf>

Instructions

Make an accurate representational model of the Wright brothers' plane used at Kitty Hawk. Visit the Wright Brothers' section of the website along the way to see original documents pertaining to their lives.

Activity 3

Time Required: 1 week outside class time (*teacher's discretion*)
Materials: Supplementary Images and Texts (online)
Additional research
Students materials of choice (for constructing the logbook)

State Standards:

Grade 6	Language Arts	<i>Goals 1, 2</i>
Grade 7	Language Arts	<i>Goals 1, 2</i>
Grade 8	Language Arts	<i>Goals 1, 2</i>
	Social Studies	<i>Goals 5.04</i>

Preparation

Do some additional research on the Wrights' experiments. Visit the Wright Brothers' section of the website.

Instructions

Write a logbook of the experiments done by the Wrights.

Activity 4

Time Required: 1-2 weeks outside class time (*teacher's discretion*)
Materials: Video camera
Additional research

State Standards:

Grade 6	Language Arts	<i>Goals 1, 2</i>
Grade 7	Language Arts	<i>Goals 1, 2</i>
Grade 8	Language Arts	<i>Goals 1, 2</i>
	Social Studies	<i>Goals 5.04</i>

Preparation

Do some additional research on the Wrights' experiments and events of their first flight in 1903. Visit the Wright Brothers' section of the website.

Instructions

Create a video documentary of the first flight.

Extension

1. Research other newspaper accounts of the flight. Compare their similarities and differences.

Sources

PC 1140.94 Reginald A. Fessenden Papers

PC 50 Charles Brantley Aycock Collection

Kirk, Steven. First in Flight: The Wright Brothers in North Carolina. Winston Salem, NC: John F. Blair, Publisher, 1995.